

*Trade and Industry in Byzantine Anatolia:
The Evidence from Amorium*

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IN A RECENTLY PUBLISHED BOOK, Bryan Ward-Perkins has drawn a graphic picture of the “decline” in material culture that marked the end of the Roman Empire between the early fifth and the seventh centuries. He points out, for example, that production of wheel-made pottery ceased in Britain during this period, and that the skill was not reintroduced “for almost three hundred years.”¹ The study also draws attention to the fact that not only were some manufacturing and construction techniques lost or abandoned in much of the western empire, but that the sophisticated mechanisms that allowed for mass production and distribution also broke down. It is further argued that the eastern half of the empire suffered a similar collapse in living standards during the seventh century, largely as a result of Persian and Arab invasions. In other words, the “Dark Ages” saw not merely a transformation in Byzantine geopolitical, military, and economic conditions but a real decline in the cultural, social, and physical aspects of Byzantine life. According to Ward-Perkins, “Around AD 600 the sophistication of the late-antique Aegean world evaporated,” and “By AD 700 there was only one area of the former Roman world that had not experienced overwhelming economic decline—the provinces of the Levant, and neighboring Egypt, conquered by the Arabs in the 630s and 640s.”²

There is a great deal of truth in this view of the Mediterranean world at the end of antiquity. However, in the present paper I attempt to redress the balance a little with regard to the surviving eastern half of the Roman Empire, concentrating on the evidence provided by the excavations at Amorium, a major Byzantine city in central Anatolia. This site, where excavations have been continuing since 1988, has already produced a wealth of new material relating to the seventh through eleventh centuries. Here, at least, there was no apparent contraction in the size of the urban settlement, which retained its impressive circuit of fortifications and buildings that served the spiritual and physical needs of its inhabitants. To date, the excavations have uncovered near the center of the Lower City a large, aisled basilica church and a bathhouse, both of which appear to have functioned until the mid-ninth century.³ The Lower City walls, too, may have been abandoned only after the capture of the city by the Arabs in 838, and the Upper City was subsequently refortified in the middle Byzantine period (10th–11th centuries).⁴ Since 1998 work has also focused on a central area of the Lower City not far

1 B. Ward-Perkins, *The Fall of Rome and the End of Civilization* (Oxford, 2005), esp. 117.

2 Ibid., 129 and 126.

3 For the most recent report on the bathhouse, see C. S. Lightfoot, Y. Arbel, B. Böhlendorf-Arslan, J. A. Roberts, and J. Witte-Orr, “The Amorium Project: Excavation and Research in 2001,” *DOP* 58 (2004): 356–63.

4 See C. S. Lightfoot, “The Survival of Cities in Byzantine Anatolia, the Case of Amorium,” *Byzantion* 68 (1998): 60–64; E. A. Ivison, “Urban Renewal and Imperial Revival in Byzantium (730–1025),” *ByzF* 26 (2000): 14–18.

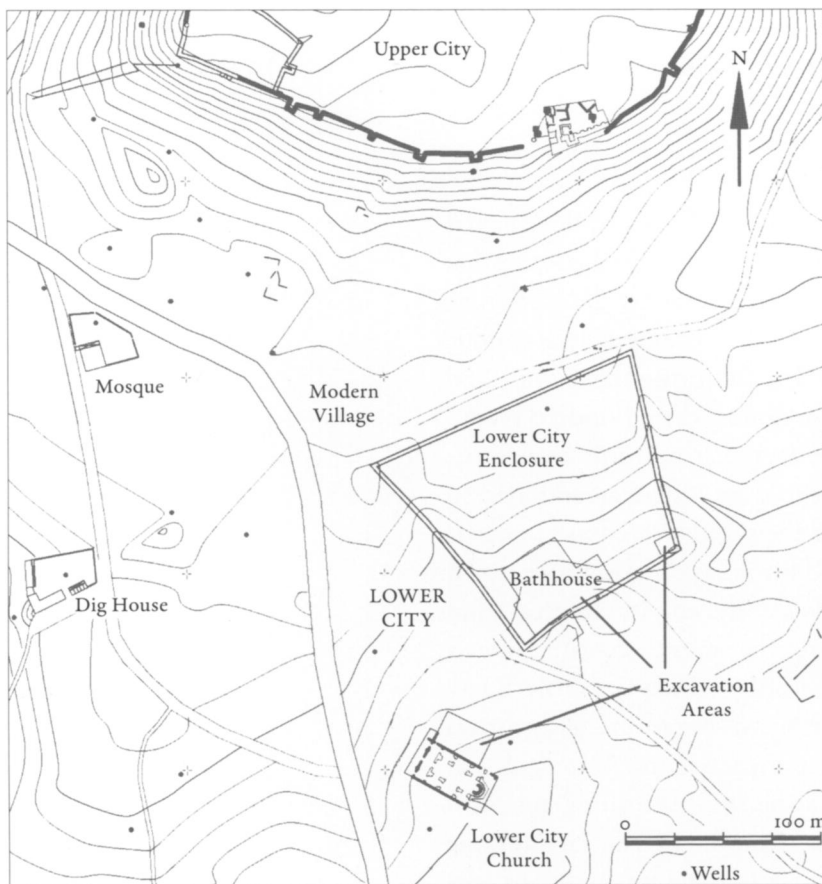


Fig. 1 Plan of the central area of the site, showing the relative positions of the Upper City and the Church and Enclosure in the Lower City. Drawing by S. Aydal.

from the Lower City Church (fig. 1). This has become known as the Enclosure because, in the middle Byzantine period, an area of some of 12,327 m² was surrounded by a massive wall, part of which has been exposed along the Enclosure's southern side. Excavations have revealed evidence for occupation within the Enclosure extending from the early Byzantine period through to the end of the Byzantine city's existence in the late eleventh century.⁵ The exact purpose of the Enclosure remains uncertain, but it is clear that the construction of the perimeter wall was intended to protect and separate off what lay within from the rest of the site.

Before excavations began at Amorium there was a widely held view that the Byzantine city was restricted to the man-made mound or *höyük*. Amorium was in this way made to conform to the picture painted by most Byzantine scholars, who see Anatolia as populated by scattered communities living only in small, easily defensible settlements and hilltop castles.⁶ Wolfram Brandes, for example, excluded Amorium from his list of Byzantine sites that could claim to be towns or cities in the dark ages. He names only Thessalonike, Ephesus, Nicaea, and Trapezus and remarks that "it is definitely no coincidence that all these were located either near

⁵ For a detailed discussion of the area's archaeology, see E. A. Ivison, "Excavations at the Lower City Enclosure, 1996–2000," in *Amorium Reports 3: Finds Reports and Technical Studies*, ed. C. S. Lightfoot and E. A. Ivison (Oxford, forthcoming).

⁶ For a rare exception to this view, see F. R. Trombley, "The Decline of the Seventh-Century Town: The Exception of Euchaita," in *Byzantine Studies in Honor of Milton V. Anastos*, ed. S. Vryonis (Malibu, 1985), 65–90.

or by the sea and had ports.”⁷ Evidence from the excavations at landlocked Amorium, however, has made it abundantly clear that there was substantial occupation of the Lower City area throughout the middle Byzantine period, and that the city was only effectively abandoned after the Turks settled in central Anatolia in the last quarter of the eleventh century.

Circumstances have largely conspired to focus attention on certain aspects of commercial activity in late Roman and Byzantine times. The emphasis has principally been on maritime trade, reflected in the concentration of studies devoted to coastal sites, shipwrecks, and bulky items of long-distance trade such as grain, oil, and wine.⁸ The existence of distinctive types of transport amphorae has greatly aided progress in this field of research.⁹ On the other hand, it is assumed that inland cities were largely self-sufficient, drawing on the natural and agricultural resources of their own territory, and cut off from their neighbors and the wider world by the expense, difficulties, and at times dangers of overland transport. In the Roman and early Byzantine periods, however, some evidence does exist for the participation of inland cities in international trade, notably in the export of marble and in the manufacture and exchange of certain types of pottery.¹⁰ Much less is known about the period after circa 650, although a famous letter (*Ep.* 43) of the Metropolitan Leo implies that in the tenth century basic goods such as olive oil, wheat, and wine that were lacking locally at Synada were supplied by long-distance trade from other parts of Anatolia.¹¹

In addition, for the Byzantine period archaeological work on the Anatolian plateau has often concentrated on churches, monasteries, and *kastra*. These sites have rarely provided substantial evidence for the everyday preoccupations of production and supply in which the majority of the population must have been engaged. Regional survey, as strongly advocated by some scholars, is also unlikely to provide a comprehensive picture of Byzantine trade and industry, since much of this activity must have taken place in urban centers and not the countryside.¹²

7 W. Brandes, “Byzantine Cities in the Seventh and Eighth Centuries—Different Sources, Different Histories,” in *The Idea and the Ideal of the Town between Late Antiquity and the Early Middle Ages*, ed. G. P. Brogiolo and B. Ward-Perkins (Leiden, 1999), 25.

8 See F. van Doorninck, “Byzantine Shipwrecks,” in *The Economic History of Byzantium: From the Seventh through the Fifteenth Century*, ed. A. E. Laiou (Washington, D. C., 2002), 899–905.

9 K. Dark, *Byzantine Pottery* (Stroud, 2001), 37–40, 47–9.

10 See J.-P. Sodini, “Le commerce des marbres à l’époque protobyzantine,” and C. Abadie-Reynal, “Céramique et commerce dans le bassin Egéen du IV^e au VII^e siècle,” in *Hommes et Richesses dans l’Empire byzantin* (Paris, 1989), 163–86 and 143–62 respectively.

11 *The Correspondence of Leo Metropolitan of Synada and Syncellus*, Greek text, trans. and comm. M. P. Vinson (Washington, D.C., 1985), 68–70.

12 See M. Whittow, “Decline and Fall? Studying Long-Term Change in the East,” in *Theory and Practice in Late Antique Archaeology*, ed. L. Lavan and W. Bowden (Leiden, 2003), 414.



Fig. 2 Stone screw-press weight, T2016, and part of treading floor (in foreground), Trench XE Context 49, Lower City Enclosure. Photo by E. Schoolman.

Other papers presented at the Dumbarton Oaks 2005 Spring Symposium have described the “rapid decline” of coastal cities, as evidenced at Aperlae, and the abandonment of inland cities such as Sagalassos in the mid-seventh century.¹³ Such phenomena speak of massive changes in the nature and scale of trade and industry in Byzantine Anatolia. Signs of this transformation can be found in the way that the mass production of red-slipped pottery and mold-made terracotta lamps ceases almost completely and very abruptly at about the same time. This, of course, does not mean that pottery for storage, cooking, eating, or lighting stopped being made or used in the Byzantine world after the mid-seventh century. It does, however, speak of the failure, or at least the severe dislocation, of those mechanisms that sustained such specialized industries and commercial activities. The finds at Amorium may provide clues about how new systems of production and distribution were developed during the dark ages. Certainly the excavations have provided evidence for a variety of different trades and crafts, including pottery production, glass blowing, and leatherworking. Items that attest to contacts with the wider world have also been found; these range from fragments of Constantinopolitan glazed white ware pottery to marine shells. Less easy to ascertain is the contribution made by imported skilled

¹³ For example, the oral presentations by R. Lindley Vann, “The Infrastructure of Trade: Harbors in the Eastern Mediterranean, 500–1000 CE,” and M. Waelkens, “The Fifth to Tenth Century CE in Southwest Anatolia: Transformation or Decline; A Case Study; Sagalassos and Its Chora.”



labor to the economic life of the city. However, the building materials and artistic skills that were used in the reconstruction and, it seems, repeated redecoration of the Lower City church provide some important indicators.¹⁴ Likewise the discovery of a series of rich and prestigious burials in the church narthex supplies evidence for the availability of elaborate silk textiles at Amorium in the late tenth through mid-eleventh century.¹⁵

Other areas of the site seem to attest to the intensive use of buildings for manufacturing and retailing purposes. Some of this evidence can be related to industrial activity, but other finds indicate that the processing of agricultural produce also took place within the city. A number of screw-press weights have been recorded at Amorium; such stone blocks are usually found in the countryside either in villages or on estates where grapes or olives were harvested.¹⁶ It could have been argued that their presence within the city is merely the result of their reuse as *spolia* for building purposes, but during the 2005 excavations in the Lower City Enclosure another large, drum-shaped press weight was found in close association with a treading floor, clearly all part of a winery (fig. 2). A second floor, complete with stone drainage spout and smaller circular collecting vat, was also found elsewhere in the Enclosure (fig. 3). This evidence shows incontrovertibly that

Fig. 3 A second treading floor with collecting vat and stone spout in situ, Trench XC Context 933, Lower City Enclosure. Photo by E. Schoolman.

¹⁴ See discussion in chaps. 8–10 of *Amorium Reports 2: Research Papers and Technical Reports*, ed. C. S. Lightfoot (Oxford, 2003), 119ff.

¹⁵ C. S. Lightfoot, "Amorium," *AnatArch* 8 (2002): 11.

¹⁶ C. S. Lightfoot, "Stone Screw Press Weights," in *Amorium Reports 2*: 73–77.

large-scale wine production was carried out in the city during Byzantine times.¹⁷ It implies that a considerable amount of land within easy reach of Amorium must have been exploited for growing vines and that a surplus of wine was produced for either export or supply to troops garrisoned there as part of the army of the Anatolikon. The absence of significant quantities of recognizable transport amphorae at Amorium may further suggest that the wine was stored and transported in other types of container, perhaps wooden casks or leather skins. But in either case the production of wine must have led to a variety of local subsidiary and service industries.

The presence of multiple wineries in the Enclosure does not attest to the “ruralization” of Amorium in the sense that people moved in from the countryside to exploit areas of the city where abandoned buildings and building materials lay ready at hand, but rather that the fortified city provided secure surroundings in which produce could be stored and processed. It was a symptom of the special conditions that existed in Anatolia in the second half of the seventh and throughout the eighth centuries as a result of frequent Arab attack.¹⁸ Those few cities that still had defensible and defended walls in fact garnered to themselves a larger population, attracting people from more vulnerable outlying areas. A close symbiosis between city and territory can therefore be postulated at dark-age Amorium.¹⁹

During the sixteen years of excavation at the site, the most common and numerous category of material after pottery shards is animal bone, most of which belongs to domestic animals (cows, sheep/goats, and pigs). Some of the fragments display butchers’ marks, suggesting that animals were driven into the city for slaughter and consumption. However, relatively few pieces of worked bone have been found; slightly less than fifty items have been recorded so far. So, whereas several Roman and late antique sites, including Sagalassos, have produced good evidence for a bone-working industry, at Byzantine Amorium this does not appear to have been a major activity, despite the massive quantities of readily available raw material.²⁰ In fact, only one piece, a fragmentary plaque or handle, has unfinished decorative elements, implying that it was made locally. On the other hand, a number of the finds may be made of ivory,

17 Another, larger treading floor and two associated collection vats were excavated during the 2006 season in the Enclosure; see C. S. Lightfoot and E. A. Ivison, “Amorium 2006,” *AnatArch* 12 (2006): 30.

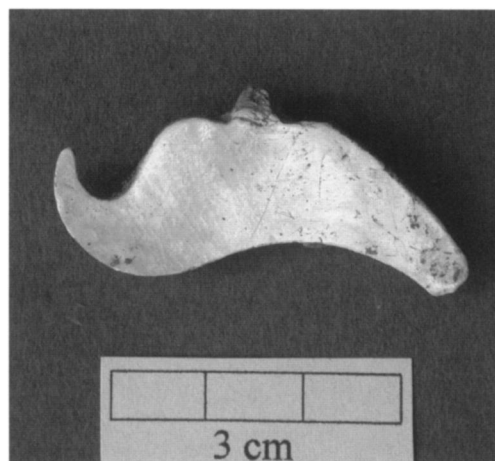
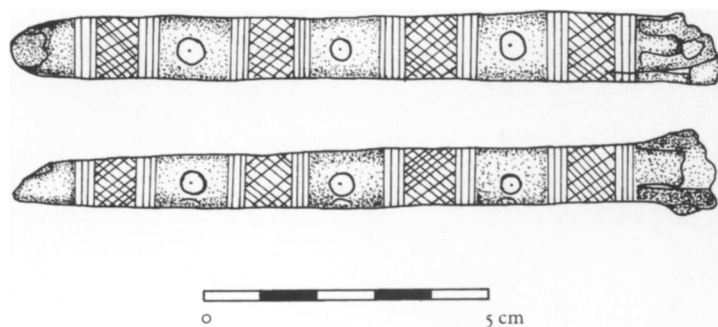
18 For references to attacks on Amorium, see C. Foss, *Byzantine and Turkish Sardis* (Cambridge Mass., 1976), 60; “Ammūriya,”

EP, 449; J. F. Haldon, *Byzantium in the Seventh Century: The Transformation of a Culture* (Cambridge, 1990), 83, 107, 113, and 216; M. Whittow, *The Making of Byzantium, 600–1025* (Berkeley, 1996), 112, 138, and 176.

19 For the opposite view, see J. Haldon, “Some Considerations on Byzantine Society and Economy in the Seventh Century,” *ByzF*

10 (1985): 87–88.

20 See, for example, B. De Cupere, W. Van Neer, and A. Lentacker, “Some Aspects of the Bone-Working Industry in Roman Sagalassos,” in *Sagalassos 2: Report on the Third Excavation Campaign of 1992*, ed. M. Waelkens and J. Poblome (Leuven, 1993), 269ff.



although no analyses have yet been made to verify this; for example a finely worked handle (fig. 4), found in the Enclosure in 2003 in a destruction layer that may date to the second quarter of the ninth century, has the appearance, weight, and hardness of ivory rather than bone. Little can be said about how such items were brought to Amorium, but whether they were brought by merchants or carried there as personal possessions by wealthy locals or visitors, they do attest to a level of sophistication and opulence that might not otherwise be suspected.

Another exotic import is mother-of-pearl. A complete inlay was found in the Enclosure in 2002 (fig. 5). It has been identified as possibly having been made from a black-lipped pearl oyster from the Red Sea.²¹ A number of marine shells have also been found at Amorium, including a few complete murex shells. The Byzantine levels at Alişar Höyük furnish the best parallels for the use of Mediterranean marine shells in central Anatolia, although Sagalassos has also produced numerous examples, presumably dating from Roman or late Roman times.²² Another item of long-distance trade, found in 2004, is an amber pendant fragment; again, it comes from the Enclosure.²³ Analysis in New York has shown that the amber is indeed from the Baltic.²⁴ There seems no reason to doubt its Byzantine context, although the use of amber in Byzantine jewelry seems to be poorly recorded. Finally, there is the evidence discovered in 2002 of a leather-working installation just outside the Enclosure

Fig. 4 Ivory (?) handle, SF5668, from Trench XC Context 451. Length 12.45 cm. Drawing by P. Pugsley.

Fig. 5 Mother-of-pearl inlay, SF4443, Trench XC East Context 21, Lower City Enclosure. Length 4.3 cm. Photo by C. Lightfoot.

²¹ The identification has been carried out from photographs by Dr. David S. Reese of the Peabody Museum of Natural History, Yale University, New Haven.

²² E. F. Schmidt, *The Alişar Hüyük Seasons of 1928 and 1929*, part I (Chicago, 1932), 80; B. De Cupere, *Animals at Ancient*

Sagalassos: Evidence of the Faunal Remains (Turnhout, 2001), 10–17.

²³ C. Lightfoot, "Amorium 2004," *AnatArch* 10 (2004): 13.

²⁴ The analysis was carried out using the pyrolysis-gas chromatography/mass spectrometry method by Prof. Alexander

M. Shedrinsky of the Chemistry Department, Long Island University, Brooklyn, New York; see A. M. Shedrinsky and C. S. Lightfoot, "A Byzantine Amber Bead," in *Amorium Reports* 3, forthcoming.



in a middle-Byzantine context of the eleventh century. A small workshop complete with workbench was excavated, and at the rear of the room a dump of several hundred small bones was found (fig. 6). The bones have been identified as the feet bones of newborn or prenatal lambs, which can only signify a tannery where the animal skins were treated, starting with the removal of the feet.²⁵ Moreover, it may be argued that the skins of newborn lambs would have been unsuitable for use as parchment, but they are ideal for making soft leather goods such as kid gloves or even astrakhan.²⁶

While one type of luxury material was, it seems, being made at Amorium, another was certainly being worn there. As mentioned above, a series of eight middle Byzantine tombs was excavated in the narthex of the Lower City church in 2002. Seven of them were sealed and undisturbed. Two of the tombs were found to contain organic remains in a remarkably good state of preservation; in one the fourth and final burial was wrapped in a textile that served as a shroud, which has subsequently been identified as made of silk. In the other tomb, fragments of textile decorated with gold thread were found, and here it was possible to make out an embroidered design

Fig. 6 Tannery workshop with stone drainage sink at left and remains of bone refuse dump at right, Trench XA2, outside Lower City Enclosure. Photo by C. Lightfoot.

²⁵ C. Lightfoot and Y. Arbel, "Amorium Kazısı 2002," 25. *KazSonTop*, 26–31 Mayıs 2003, Ankara (Ankara, 2004), 1: 5, plate 11.

²⁶ I thank Dr. Evangelia Ioannidou for suggesting this interpretation to me; see E. Ioannidou, "Animal Husbandry," in *Amorium Reports* 3, forthcoming.

on the silk weave.²⁷ Although it cannot be proved, it would seem probable that these rich textiles were imports into Amorium, but there is no reason to doubt that they were of Byzantine manufacture.²⁸ Silks carried considerable prestige, conferring distinction on their owners and, it is argued, they were most effective as status symbols “in an urban environment.”²⁹

The tannery was located just outside the Enclosure wall, but many other installations associated with the latest phases of Byzantine occupation have been uncovered inside the Enclosure. They were built either at the same time as or slightly later than the Enclosure wall itself, which can be dated by coin finds to the end of the tenth/beginning of the eleventh century.³⁰ Some of these installations were found inside the shell of the early Byzantine bathhouse; others appear to have been inserted inside new large rectangular constructions (fig. 7).³¹ The small size of the rooms suggests that they were storage areas or workshops; similar installations have been found within the Roman baths at Hierapolis.³² There, too, the precise function of the compartments is not clear, but one must assume some form of commercial rather than domestic use.

Whereas few transport amphorae have been found at Amorium, significant quantities of large storage jar or pithos fragments have



Fig. 7 Middle Byzantine installations within a large rectangular construction to the east of the bathhouse, Trench XC Context 435. Photo by C. Lightfoot.

²⁷ P. Linscheid, “Middle Byzantine Textiles from Amorium, Anatolia,” *Archaeological Textiles Newsletter* 38 (2004): 25–27. Analysis of the silk thread has been carried out by Florica Zaharia, head of Textile Conservation at The Metropolitan Museum of Art, New York. A microscopic sample of the metal thread has also been found to be made of high-purity gold with only traces of silver and copper; this analysis has been carried out by Mark Wypyski, Department of Scientific Research, The Metropolitan Museum of Art, New York.
²⁸ For a recent study of the Byzantine silk industry, see D. Jacoby, “Silk Economics

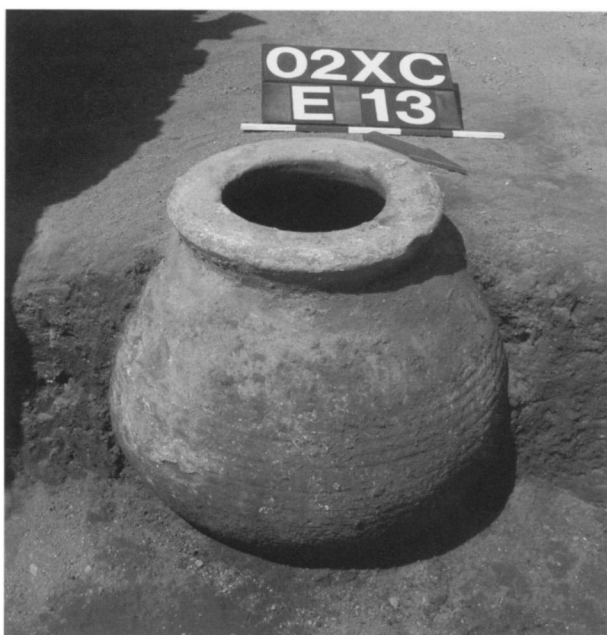
and Cross-Cultural Artistic Interaction: Byzantium, the Muslim World, and the Christian West,” *DOP* 58 (2004): 197–240, and esp. 198–99. It is, however, clear that Byzantine silks were exported to the Muslim world while Islamic silks were imported into the empire (*ibid.*, 218–20).

²⁹ Jacoby, “Silk Economics,” 239.

³⁰ Six anonymous folles of class A2 were found in the rubble core of the Enclosure wall during cleaning and consolidation in 2001 (C. Lightfoot and Y. Arbel, “Amorium Kazısı 2001,” 24. *KazSonTop*, 27–31 Mayıs 2002, Ankara [Ankara, 2003], 525, plate 9 [showing only five coins]).

³¹ See C. S. Lightfoot, Y. Mergen, B. Y. Olcay, and J. Witte-Orr, “The Amorium Project: Research and Excavation in 2000,” *DOP* 57 (2003): 290, fig. 16; Lightfoot, Arbel, Böhlendorf-Arslan, Roberts, and Witte-Orr, “Amorium 2001,” *DOP* 58 (2004): 363–64, fig. 11. See Amorium report, this volume, fig. 8.

³² C. Şimşek, “V. Dönem Hierapolis Roma Hamamı Kazısı,” 8. *MüzKazSem*, 7–9 Nisan 1997, Kuşadası (Ankara, 1998), 463–64, figs. 1–2.



been excavated, together with a number of complete or nearly complete examples (figs. 8 and 9).³³ They have been found in both dark-age and middle-Byzantine strata, indicating long-term use if not production of pithoi. At neighboring Pessinus analysis of the clay used in the Byzantine examples found there has shown that there were six different fabrics, coming from at least two different sources of production. Indeed it is claimed by the Pessinus team that “we now have solid evidence . . . of long-distance exchange or trade of [late Roman and early Byzantine] pithoi in central Anatolia.”³⁴ However, because of their size and weight it is difficult to imagine that such items were not made locally—perhaps not at the site itself but at a nearby clay pit. At Amorium, too, it may be assumed that the pithoi are of local manufacture. How extensive and prolonged this industry was remains unclear, but it would appear that, despite some recycling of earlier jars, production continued throughout the Byzantine period.³⁵

Fig. 8 Pithos in situ in 2002, Trench XC East Context 13. Photo by C. Lightfoot.

Fig. 9 Pithos in situ in 2005, Trench XC Context 950. Photo by E. Schoolman.

³³ See, for example, C. S. Lightfoot et al., “Amorium Excavations 1993, the Sixth Preliminary Report,” *AnatSt* 44 (1994): 115, fig. 2; Lightfoot, Mergen, Olcay, and Witte-Orr, “Amorium 2000,” 290 (above, n. 31). Several more intact or nearly complete pithoi have been found in the Enclosure during recent seasons but have yet to be published in detail.

³⁴ J. Devreker, H. Thoen, and F. Vermeulen, *Excavations in Pessinus: The So-Called Acropolis. From Hellenistic and Roman Cemetery to Byzantine Castle* (Ghent, 2003), 373.

³⁵ Despite the fact that pithoi frequently appear at sites and are often displayed in Turkish museum gardens, they have yet to be discussed at any length in the literature on Byzantine ceramics; see, for example, Dark, *Byzantine Pottery*, 44 (above, n. 9).

Amorium also provides much valuable information about brick production and use.³⁶ The brickyards themselves may have been located outside the city, and it is difficult to date specific examples of brick and tile because of the tendency to recycle such material in later constructions or for other purposes such as using them for game boards. The first example of a stamped brick was noted at Amorium in 1992.³⁷ Since then several more have been found, and it has been possible to identify three different stamps, one with the name [E]ugeni[os], while the other two carry the name [A]elian[os]. They were probably made in the sixth century. It has been argued elsewhere that early Byzantine brick stamps identify the origin of a brick; that is, the owner of a brickyard, the owner of the land on which the clay pits and/or brickyards were situated, or the foreman in charge of a group of brick workers. The stamps thus have no relevance with regard to the building(s) in which they were used.³⁸ We can, therefore, exclude the assumption that Eugenios and Aelianos had been involved in the construction of the first-phase Lower City church or any other specific building at Amorium. Instead they were most likely brickyard or clay-pit owners who were being taxed for their brick production. It is logical to assume that the brickyards would have been near the clay pits, where, as well as having ready access to the raw materials, they would have contained room to dry the bricks before firing. Certainly the many impressions, especially the paw prints of large dogs, left on the unfired bricks imply that a large open space formed part of the brickyard.

The continued use in Byzantine times of such everyday objects as bricks and pithoi is also an indicator of cultural sophistication. Bryan Ward-Perkins has highlighted the fact that whereas tiled roofs were ubiquitous in Roman Italy they are later found there used only in “elite buildings.”³⁹ At Amorium the quantities of roof tiles that

36 The brick and tile have been intensively studied by Dr. Johanna Witte-Orr, and I am grateful to her for allowing me to draw on her work here. For preliminary reports, see C. S. Lightfoot and E. A. Ivison, “Amorium Excavations 1994, the Seventh Preliminary Report,” *AnatSt* 45 (1995): 131–32; C. S. Lightfoot et al., “The Amorium Project: The 1997 Study Season,” *DOP* 53 (1999): 345–46, figs. 6–7. For a comprehensive study, including a catalogue of nearly 400 examples from Amorium, see J. Witte-Orr, “Roman and Byzantine Bricks and Tiles,” in *Amorium Reports* 3, forthcoming.

37 R. M. Harrison, N. Christie et al., “Excavations at Amorium: 1992 Interim Report,” *AnatSt* 43 (1993): 155, fig. 1.

38 Jonathan Bardill has demonstrated how buildings in the capital were built with bricks from several years and yards, which resulted in a mix of individuals named, and explains that the stamps served a taxation purpose, not as an indicator for which building project they might have been intended (J. Bardill, *Brickstamps of Constantinople* [Oxford, 2004], 8–26).

39 Ward-Perkins, *Fall of Rome*, 95–96 and 109 (above, n. 1).



Fig. 10 One area of tile collapse, as excavated in 2005, Trench XE Context 96, viewed from the Lower City Enclosure wall. Photo by E. Schoolman.

have been recovered from various areas of the site (fig. 10) suggest that many more buildings were furnished with tiled roofs than just the principal civic and ecclesiastical ones, even if these domestic or commercial premises were largely constructed of mud-brick on stone foundations. Likewise the use of relatively expensive and cumbersome pithoi rather than simple pits for domestic storage purposes indicates a certain level of investment of time, trouble, and wealth.

Quarrying stone obviously occurred in the countryside. Limestone was readily available immediately outside the city walls in the area to the south and west. Here, too, was located one of the major cemeteries of the ancient city, so that in Byzantine times at least the need for building stone was satisfied not just by quarrying new blocks but also by removing old Roman tombstones and funerary monuments for reuse. This practice apparently continued into middle Byzantine times.⁴⁰ In addition marble was much used at Amorium. Both the Enclosure bathhouse and the Lower City church had marble revetment on their walls and marble flooring.

⁴⁰ See, for example, Lightfoot, "Amorium 2004," 13 (above, n. 23). This inscribed block has now been correctly identified by Prof. Thomas Drew-Bear as part of the monumental tombstone of a certain Athenaios, probably dating to the first half of the 3rd century but reused as a spolia block in a Byzantine wall constructed no earlier than the second half of the 9th century.



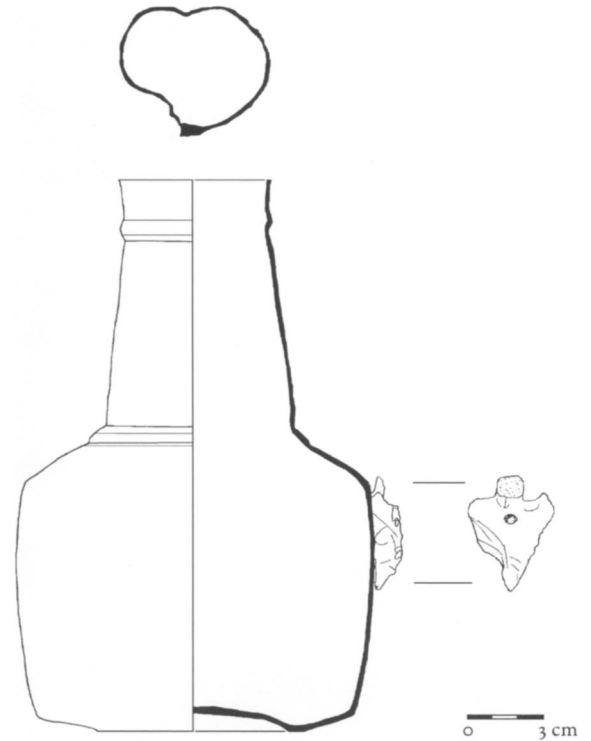
Fig. 11 Part of the middle Byzantine marble floor in the nave of the Lower City Church. Photo by C. Lightfoot.

These two buildings stood throughout the dark ages but, whereas the bathhouse was probably abandoned in the ninth century, the church was completely refurbished in the middle Byzantine period. This work included the laying of a new opus sectile floor in the nave. Many of the slabs can be identified as *pavonazzetto* (fig. 11), which is said to come from the quarries at Docimeium (İscehisar), not far from Amorium.⁴¹ The red-veined breccia that was extensively used for columns and doorframes at the Lower City Church, however, is thought to be from quarries not far from Dorylaeum (Eskişehir).⁴² Other stones found at Amorium come from more distant sources.

As part of her work on the marble revetment slabs from the bathhouse, Olga Karagiorgou has also studied the imported colored-marble fragments and identified them as coming from various parts of Greece. They include slabs of verde antico from Thessaly, green porphyry from near Sparta, and cipollino from Karystos on Euboea. Of course, it is not at all clear when the marble was brought to Amorium since, as with many of the floor slabs used in the middle Byzantine church, these pieces may be spolia that were reused during the refurbishment of the baths, possibly in the latter part of the eighth century. Nevertheless, their presence shows that an appreciation for luxury *Buntmarmore* persisted at Amorium well into Byzantine times.

41 H. Mielsch, *Buntmarmore aus Rom im Antikenmuseum Berlin* (Berlin, 1985), 59, plate 18.

42 This breccia is known in the marble trade as “Salome Light”; see <http://www.graniteland.com/stone/salome-light.html>. Further work is required before a precise identification of the main sources of local marble can be made.



Among the many pieces of metalwork that have been recovered so far from the excavations at Amorium three of the finest examples are a copper alloy ewer (figs. 12 and 13), a handle from another ewer (fig. 14), and a large tinned basin, all found in the Enclosure in recent seasons.⁴³ Such vessels can be seen as part of the international repertoire of Byzantine metalwork, which has been highlighted by Marlia Mundell Mango.⁴⁴ They may also be seen as luxury imports at Amorium, and only their dating is contentious. The stratigraphical contexts suggest that they belong in the ninth century; the basin in particular came from a clear destruction layer that may be associated with the capture of Amorium by the Arabs in 838. Certainly such valuable metal objects would not have been idly or casually discarded.

There is little need to say much here about the glass found at Amorium, since this material was discussed at some length in a

Fig. 12 Copper alloy ewer, SF4498, from Trench XB Context 69, Lower City Enclosure. Height 22.5 cm. Photo by T. Çakar.

Fig. 13 Copper alloy ewer, SF4498, from Trench XB Context 69, Lower City Enclosure. Height 22.5 cm. Drawing by B. Altaş.

⁴³ For the handle, SF6918, compare P. Flourentzos, *Excavations in the Kouris Valley*, vol. 2, *The Basilica of Alassa* (Nicosia, 1996), 32, 34, plates XLI–XLII (dated to first half of 7th century). For the basin, see C. Lightfoot, O. Koçyiğit, and H. Yaman, “Amorium Kazıları 2003,” 26. *KazSonTop*, 24–28 Mayıs 2004, Konya

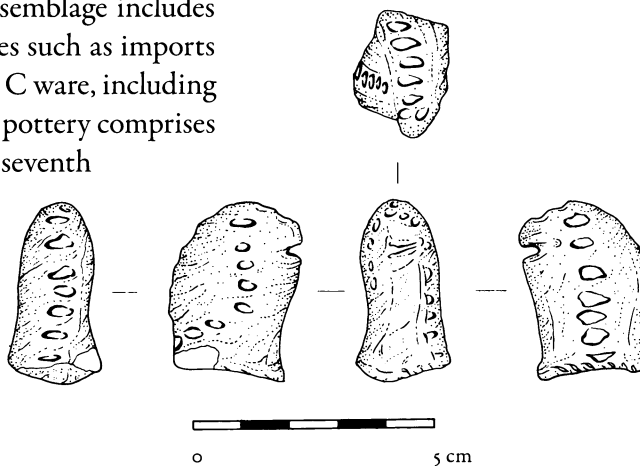
(Ankara, 2005), 1: 250, fig. 1, plate 2 (shown in situ), and see Amorium report, this volume, figs. 10 and 11.

⁴⁴ M. Mundell Mango, “Beyond the Amphora: Non-Ceramic Evidence for Late Antique Industry and Trade,” in *Economy and Exchange in the East Mediterranean during Late Antiquity*, ed. S. Kingsley and

M. Decker (Oxford, 2001), 89ff.; see also G. H. R. Wright, “Some Byzantine Bronze Objects from Beycesultan,” *AnatSt* 50 (2000): 165–70, figs. 11–12a–b. The dating of the Beycesultan material to two distinct periods, one early Byzantine (ca. 6th century), the other middle Byzantine (ca. 10th–12th century), is highly conjectural.

special colloquium held at Dumbarton Oaks in 2002. It was then not possible to point to any imported Islamic glass, but one piece of a cut-glass bowl has since come to my attention and has been added to the published paper; again it comes from a context in the Enclosure.⁴⁵ If correctly identified, it could be a very rare example of an Islamic import at Amorium. Recent excavations have also produced more evidence for glass working in the form of cullet, waste threads, and other debris. These finds are concentrated within the Enclosure, indicating that an industry, which in Roman times would have been located on the outskirts of a city, is at Byzantine Amorium seemingly placed at the very center of the urban area. Likewise the discovery on the Upper City mound of a potter's kiln would suggest that industrial activities were carried out at various parts of the city in and among buildings used for other purposes. The kiln, excavated some ten years ago, has recently been re-dated by Beate Böhlendorf-Arslan to the late eighth or early ninth century.⁴⁶ It is quite small, and so it may be doubted if it was used for firing such things as bricks or storage jars in addition to table- or cooking ware, but the wasters found in its immediate vicinity show that some of the vessels were quite large nevertheless.

Mention of the kiln introduces the largest group of material that is found at Amorium, namely the pottery. The assemblage includes some residual late Hellenistic and Roman red wares such as imports from Sagalassos and a few fragments of late Roman C ware, including late Roman unguentaria,⁴⁷ but the vast bulk of the pottery comprises Byzantine coarse wares, ranging in date from the seventh to the eleventh century. There are plain wares, painted wares, and some decorated wares, including two lids with curious zoomorphic knob handles (figs. 15 and 16).⁴⁸ In addition, there are the enigmatic multihandled vessels found in a destruction layer behind the



45 C. S. Lightfoot, "Glass Finds at Amorium," *DOP* 59 (2005): 175, figs. 2 and 3.

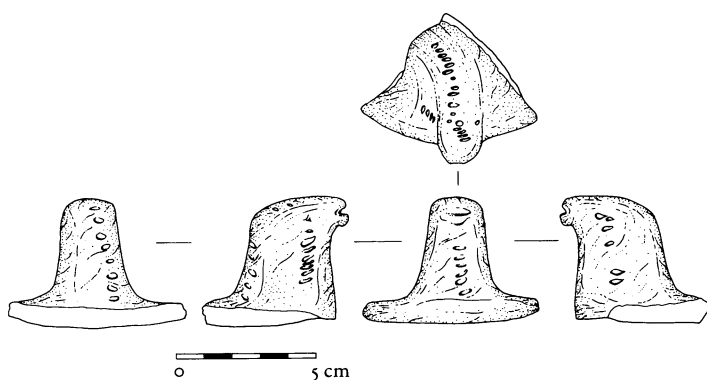
46 B. Böhlendorf-Arslan, *Die glasierte byzantinische Keramik aus der Türkei* (Istanbul, 2004), 1: 28, 222. In earlier reports a middle Byzantine date had been assigned to the kiln; see C. S. Lightfoot and E. A. Ivison, "The Amorium Project: The 1995 Excavation Season," *DOP* 51 (1997): 299, fig. 9; C. S. Lightfoot et al., "The Amorium Project: The 1996 Excavation Season," *DOP* 52 (1998): 332, 334–35.

47 For the unguentaria, see the report by Ergün Laflı in Lightfoot and Arbel, "Amorium Kazısı 2002," 4–5, plate 10 (above, n. 25); E. Laflı, "Roman and Late Roman Terracotta *Unguentaria*: 1988–2005," in *Amorium Reports* 3, forthcoming.

48 For an example of burnished relief ware, see C. S. Lightfoot, "Amorium and the Afyon Region in Byzantine Times," in *Ancient Anatolia. Fifty Years' Work by the British Institute of Archaeology at Ankara*, ed. R. Matthews (London 1998), 307, fig. 24.3.

Fig. 14 Copper alloy handle, SF6918, from Trench XE Context 51, Lower City Enclosure. Length 21.1 cm. Photo by E. Schoolman.

Fig. 15 Terracotta fragment of a handled lid with zoomorphic design, SF5627, from Trench XC Context 436. Preserved height 3.75 cm. Drawing by P. Pugsley.



Lower City walls.⁴⁹ Not only is the question of their function still unresolved, but the fact that two close parallels are now known from Kastamonu in Paphlagonia also casts doubt on whether they, and perhaps some of the other coarse wares, are indeed local products. One solution to the latter problem may be to see them as made by itinerant potters. Much work still has to be done in recording, classifying, and dating the mass of ceramic material, but the quantity of finds, which makes for this logistical problem, is in itself indicative of the size, affluence, and relative sophistication of the community that used them. Moreover, in addition to the coarse wares, there is a small but significant number of glazed fine wares, including a fragment of a middle Byzantine Polychrome Ware cup or bowl found on the Upper City mound in 2004 (fig. 17).⁵⁰ Such imports are likely to have been few in number, but they are significant in demonstrating the wealth and contacts that could still be found at Amorium. Indeed Beate Böhlendorf-Arslan, in her recently published survey of glazed Byzantine pottery from sites in Anatolia, is only able to trace a continuity of such finds at two sites, Constantinople and Amorium.⁵¹

An explanation for why and how the ceramic tradition in the Byzantine world changed so suddenly and radically in the mid-seventh century remains elusive. It may be argued that political and military events caused a downturn in either maritime trade or specialized mass-production, or both.⁵² This would seem more

Fig. 16 Terracotta fragment of a handled lid with zoomorphic design, SF5728, from Trench XM Context 23. Preserved height 4.3 cm. Drawing by P. Pugsley.

Fig. 17 Polychrome glazed fragment found during surface cleaning inside Trench L, Upper City. Preserved length 5 cm. Photo by C. Lightfoot.

49 C. Lightfoot, "Byzantine Pots in Central Turkey Puzzle Excavators," *Minerva* 10/3 (May/June 1999): 7; C. S. Lightfoot, E. A. Ivison et al., "The Amorium Project: The 1998 Excavation Season," *DOP* 55 (2001): 380, fig. 12. For the example in Istanbul, see *İstanbul Arkeoloji Müzeleri Yıllığı* 3 (1949): 32, fig. 17. I am grateful to Dr. Marlia Mango for drawing my attention to this publication.
50 AMo4. Surface cleaning inside Trench L, Upper City. Body fragment of small han-

dled bowl or cup. White fabric. Yellow-brown and dark purple (?) under glaze on interior; yellow-brown band on under curve on exterior, with a band of pseudo-kufic lettering as decoration above: white on a black ground. Constantinopolitan Ware. 10th century. P.L. 5. cm., p.H. 3. 55 cm., Th. 0.55–0.3 cm. This fragment may be compared directly with one in the Benaki Museum that also has linear motifs painted in black and white (D. Papanikola-Bakirtzi,

F. N. Mavrikiou, and C. Bakirtzis, *Byzantine Glazed Pottery in the Benaki Museum* [Athens, 1999], 24, no. 20).

51 See Böhlendorf-Arslan, *Glasierte Keramik*, 1: 96–103, 107 (above, n. 46), with map 3 and table 1 (the latter two are in *ibid.*, vol. 3).

52 Others, however, see "cultural change" as the main reason for the abandonment of the use of red-slipped fine ware (Dark, *Byzantine Pottery*, 57, 107–8 [above, n. 9]).

plausible than the idea that people could no longer afford to buy red-slip wares, since they clearly had to buy some pottery whether it was local coarse wares or relatively inexpensive fine-ware imports. The case of lamp production is, perhaps, instructive. Mold-made terracotta lamps formed the standard, everyday lighting device from Roman through early Byzantine times, but in circa 650 the centuries-old tradition of making mold-made lamps disappears.⁵³ Several examples of such lamps decorated with Christian symbols have been found during the excavations at Amorium; two intact examples (figs. 18 and 19) were also recovered from a multi-chambered early Christian tomb in 2005.⁵⁴ They can all probably be dated to the sixth or first half of the seventh century.⁵⁵ Thereafter, however, there appears to be a distinct dearth of lamps at the site until middle Byzantine times, when a rather uniform type of wheel-made lamp occurs in large quantities.⁵⁶

In the intervening period, there is little evidence for terracotta-lamp production or use at Amorium, as elsewhere, although a few very coarse handmade examples may best be ascribed to the dark ages. It has been suggested that candles and candle manufacture replaced the lamp industry during this period, but the fact that the inhabitants of Amorium returned some time later to using terracotta lamps suggests that there was not a permanent shift in how people wanted to light their homes and places of work.⁵⁷ One reason may be that the mold-made lamp industry was highly centralized and specialized. Places such as Amorium may have depended almost entirely on imports and, once the industry collapsed, it took time for locals to develop the skills to produce their own substitutes.⁵⁸ This explanation, however, seems unsatisfactory, since it is clear that the

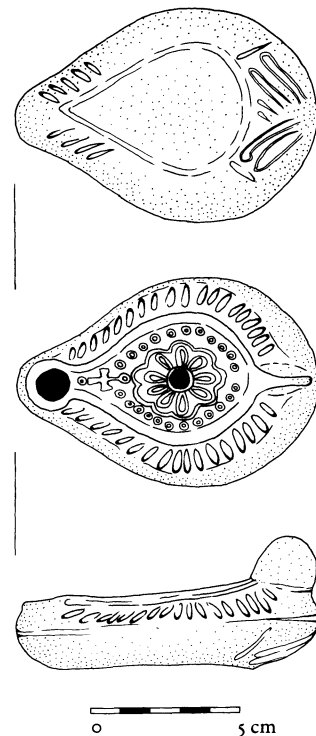
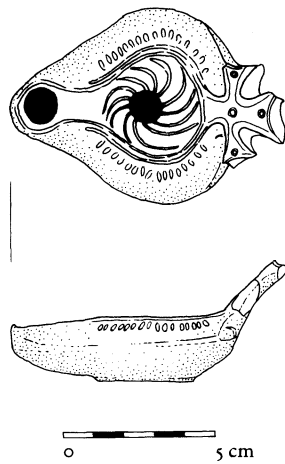


Fig. 18 Terracotta mold-made lamp, SF6614, from the West Necropolis, Tomb MZ94c. Length 8.95 cm. Drawing by P. Pugsley.

Fig. 19 Terracotta mold-made lamp, SF6615, from the West Necropolis, Tomb MZ94c. Length 10.05 cm. Drawing by P. Pugsley.

⁵³ The mass production of mold-made terracotta lamps after the 7th century survived only in the Islamic world; see, for example, N. Adler, *Oil Lamps of the Holy Land* (Jerusalem, 2004), 160ff.

⁵⁴ M. A. V. Gill and N. T. Şen, "Roman and Early Byzantine Terracotta Lamps," in *Amorium Reports* 2, 28, nos. 36–38, and 31–32, no. 84 (above, n. 14); E. Schoolman, "Middle Imperial, Late Roman, and Early Byzantine Terracotta Oil Lamps: 2002–2005," in *Amorium Reports* 3, forthcoming.

⁵⁵ A close parallel to one of the intact lamps from the tomb (fig. 19) is an unprovenanced lamp in the Bibliothèque nationale de France, acquired in 1906 (C. Trost and M.-C. Hellmann, *Lampes antiques du département des Monnaies, Médailles et Antiques III. Fonds général, lampes chrétiennes* [Paris, 1996], 137–38, no. 215, plate 32). Both clearly come from different but closely related molds, but the location of the workshop remains unknown.

⁵⁶ M. A. V. Gill, "Middle Byzantine

Terracotta Lamps," in *Amorium Reports* 2, 65–71 (above, n. 14); C. S. Lightfoot, "Middle Byzantine Terracotta Lamps: 1993–2005," in *Amorium Reports* 3, forthcoming.

⁵⁷ For candles and candle-makers, see C. Mango, "Addendum to the Report on Everyday Life," *JÖB* 32.1 (1982): 255–6. For the parallel development of the soap makers' guild, see R. S. Lopez, "Trade in Seventh-Century Byzantium," *DOP* 13 (1959): 72.

⁵⁸ Compare Ward-Perkins, *Fall of Rome*, 136–37 (above, n. 1).

inhabitants of Amorium were able to supply themselves with quantities of other goods for daily use, notably glassware and good-quality, wheel-turned pottery. Moreover, the lamp industry did not operate in isolation but in close conjunction with the production and distribution of olive oil. Since olive trees do not grow around Amorium, a shortage of imported oil would have impacted severely on local demand for oil lamps. Disruption to the production and supply of sufficient quantities of olive oil during the seventh century may have enforced the change of habit. It may be, therefore, that factors beyond the control of the local population helped cause a radical change in their lifestyle.

What emerges from this rapid and rather cursory survey is that Amorium should not be seen just as a fortified administrative center occupied by soldiers, clerics, and imperial officials but as a real city, filled with a whole host of different craftsmen and tradespeople. Some scholars speak of the “ruralization” of Byzantine cities, and certainly Amorium would fit into this category in that it seems to have acted, as we have seen, as a center for the processing of agricultural produce and probably for migration from the countryside.⁵⁹ But much more than this, it must have functioned as an important center for the production of finished goods, a commercial entrepôt, and a major source of both skilled and casual labor. Although a number of other cities must have served a similar function as regional centers, few have been or are able to furnish the same wealth of archaeological evidence as Amorium has now begun to provide.

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59 G. Ostrogorsky, “Byzantine Cities in the Early Middle Ages,” *DOP* 13 (1959): 65; S. Vryonis, *The Decline of Medieval Hellenism in Asia Minor and the Process of Islamization from the Eleventh through the Fifteenth Century* (Berkeley, 1971), 7; Trombley, “The Decline of the Seventh-Century Town,” 75 (above, n. 6).